Massachusetts Department of Public Health

A Profile of Health Among Cape Verdean Adults in Massachusetts, 2007
Results from the Cape Verdean Community Health Survey

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For additional information concerning the Cape Verdean Community Health Survey, please call the Diabetes Prevention and Control Program at the Massachusetts Department of Public Health at 617-624-5070.

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HIGHLIGHTS

In 2007, the Massachusetts Department of Public Health's Diabetes Prevention and Control Program and the Associação Cabo-Verdiana de Brockton (Cape-Verdean Association of Brockton) collaborated on the Cape Verdean Community Health Survey.

The project had three goals:

1. To develop and implement a Community Health Survey in Brockton, New Bedford, and Fall River, Massachusetts.
2. To explore whether there were disparities in health status and health care access among Cape Verdean adults by sex, age, educational level, disability level, number of years in the United States, and type of health care coverage.
3. To use findings from the Community Health Survey for the design, implementation, and evaluation of programs created to help eliminate health disparities among Cape Verdeans.

Eliminating health disparities remains a major public health challenge in Massachusetts and throughout the country. To meet this challenge, the Massachusetts Department of Public Health (MDPH) conducts the Behavioral Risk Factor Surveillance System (BRFSS) survey, which provides information on a wide variety of health conditions, health ris k factors, and health behaviors of Massachusetts residents. Because it is not possible to identify Cape Verdean respondents in this statewide survey, MDPH collects health information on this population and other racial and ethnic minority groups not well represented in statewide surveys.

In 2007, a convenience sample of 550 Cape Verdean residents in three Massachusetts communities (Brockton, New Bedford, and Fall River), completed an in-person survey based on the Massachusetts BRFSS. The 2007 Community Health Survey was administered by trained community members. Participants were required to give informed consent prior to participation in the survey.

Highlights from the 2007 Community Health Survey report are presented below. For more details, including findings on disparities in subgroup populations, please refer to the full report.

Participants

- The sample was evenly divided between women and men ranging in age from 18 to 87 years.
- 51% of respondents had an 8th grade education or less.
- 45% of respondents had been in the U.S. for less than 10 years.
- 4% of respondents were born in the U.S.
- 31% of respondents feel that their neighborhood was either "never" or "sometimes" safe.

Health Status and Health Care Access

- 35% of Cape Verdean adults reported their health was fair to poor.
- 18% of respondents reported limitations in activities because of physical, mental or emotional problems.
- 22% of Cape Verdean adults do not have a personal doctor or nurse to go to for their health care.
- 41% of Cape Verdean adults did not have a routine dental visit in the past year.
- 9% of Cape Verdean adults reported that they did not get the care they needed because of their color, gender, or disability.

Chronic Diseases

- 35% of Cape Verdean adults have been told by a doctor, nurse, or other health professional that they have high blood pressure.
- 27% of Cape Verdean adults have been told by a doctor or nurse that they have high cholesterol.
- 36% of Cape Verdean adults have three or more lifestyle risk factors for chronic illnesses: high blood pressure, high cholesterol, obesity, no leisure -time physical activity, diet low in fruits and vegetables, and cigarette smoking. Both singly and in combination, these risk factors increase the risk of developing chronic diseases and of dying prematurely from these diseases.

- ***Disparities.*** Cape Verdean adults most likely to have three or more risk factors that increase the risk of developing and dying prematurely from chronic diseases:

    - Are ages 50 and older
    - Have an 8th grade education or less
    - Are limited in activities because of a disability
    - Have no health insurance or have MassHealth insurance

Cancer Screening

- 79% of Cape Verdean women aged 40 and older had a mammogram in the past year.

- 50% of Cape Verdean women aged 50 and older have been screened at least once for colon cancer by sigmoidoscopy, colonoscopy or proctoscopy.

- 59% of Cape Verdean men aged 50 and older had a prostate specific antigen (PSA) test in the past year.

- 64% of Cape Verdean men aged 50 and older have been screened at least once for colon cancer by sigmoidoscopy, colonoscopy or proctoscopy.

Diabetes and Pre-Diabetes

- 10% of Cape Verdean adults have diagnosed diabetes.

- Among respondents with diabetes:

    - 84% reported that their provider taught them how to care for their diabetes but more than one-third (37%) said they never heard of the hemoglobin A1C test. (The A1C test is used to monitor the level of blood sugar [glucose] in people with diabetes.)
    - 58% said a doctor never talked to them about the hemoglobin A1C test or did not know if the doctor ever discussed the hemoglobin A1C test.
    - 40% said they checked their blood glucose or sugar at home less often than once a day, or only when they felt sick, or only when they saw a health care provider. (People with diabetes need to check their blood glucose daily.)

- A "pre-diabetes" score was calculated for Cape Verdeans between the ages of 30 and 60 who did not have diagnosed diabetes or (for women) who only had diabetes during pregnancy. The score was based on six factors associated with a high risk of developing diabetes: (1) being between the ages of 30 and 60, (2) being male, (3) having a body mass index or BMI of 30 and higher, which is considered obese, (4) having diagnosed high blood pressure, (5) not exercising if able to do so, and (6) having a family history of diabetes. The more risk factors a person has, the higher the score.

    - Among Cape Verdean adults 30 to 60 years of age with no history of diabetes, 27% were at risk for developing diabetes.

- ***Disparities.*** Cape Verdean adults most likely to have multiple risk factors that increase their risk of having ***pre-diabetes***:

- ❖ Are ages 48 and older
- ❖ Have an 8th grade education or less
- ❖ Are limited in activities because of a disability
- ❖ Have been in the U.S. for ten years or longer

Family History

A family health history helps identify people at increased risk of disease because it reflects an individual's genes as well as family members' shared environment s and lifestyles.

- 33% of Cape Verdean adults reported that a family member had diabetes.
- 26% of Cape Verdean adults reported that a family member had suffered from a heart attack or a stroke.
- 21% of respondents reported that a family member had asthma.
- 10% of respondents said a family member had depression.
- 20% of Cape Verdean adults have a family member who has/had a drinking problem.

GUIDE TO READING THIS REPORT

This guide will provide an overview for each section to explain how best to locate and interpret the information contained in the text, tables, figures and other data sources contained in the report.

Introduction and Project Description Sections

The first two sections of this report provide narrative which contains background information about the reasons and purpose for the survey. Read the "Introduction" for information about the history of Cape Verdeans in the U.S. and the goals of the survey. The "Project Description" section focuses on the processes that occurred to complete the project.

We recommend reading these sections prior to reviewing the "Results Section" in order to better appreciate the importance of the findings as well as become aware of the limitations specific to this survey.

Results Section

The Results Section is in a Chapter Format. Each chapter contains two sections (A and B).

Section A asks the reader a specific question about the Cape Verde community, then provides the data to answer the question. The data is listed in a table but significant results are also described in bulleted narrative format within a shaded square area called "Highlights" (see description below). Most chapters ask one question but chapters 7 and 9 pose additional questions.

Section B also provides analytic results but focuses on the "disparities" within the outcomes shown in section A. These "disparate groups" are defined in Table 1. For chapters with more than one question in section A, the disparity table or figure applies to a selected question of primary importance. Statistically significant results are highlighted in bullet points prior to the Disparity Table or Disparity Figure.

Highlight Squares
Highlight squares are found in Section A of nearly every chapter. They provide a narrative description, along with the numerical result, of all the statistically significant results from the table immediately following it.

Topic Box
At times, additional information is provided within an outlined, square-shaped area called a "Topic Box." The Topic Boxes contain relevant information to the chapter's theme. A Topic Box should add depth to your understanding of the chapter's survey results.

Tables and figures

There are two types of tables in this report; Frequency Tables and Disparity Tables. Frequency tables show the number and percentage of people who answered a survey question. The category labeled "unknown" includes "don't know" responses and missing data. In the example below, 425 survey respondents, or 77.3% of all those surveyed, had a personal doctor for their health care.

Survey question	Number of respondents	Percent of respondents
Personal doctor for health care		
Yes	425	77.3
No	120	21.8
Unknown	5	0.9

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey, 2007.

To measure health disparities within the Cape Verdean community, Disparity Tables or, in some cases, Disparity Figures display differences in health status, presence of disease, and access to health care by the following six categories: Sex, Age, Educational Level, Disability, Years in the U.S., and Type of health care coverage (see Table 1). Measures of disparities within the Cape Verdean community exclude "don't know" responses and missing data.

Table 1. Definitions of terms for measuring disparities

Disparity	Definitions
Gender	Female *vs.* Male
Age	Under age 50 *vs.* Age 50 and older
Educational level	No schooling or up to 8th grade education *vs.* More than 8th grade education
Disability	Limited in any way in any activities because of physical, mental or emotional problems *vs.* No disabilities
Years in U.S.	In U.S. less than 10 years *vs.* In U.S. for 10 years or more or born in U.S.
Health insurance	Has no health insurance or Medicaid insurance *vs.* Has commercial (private) health coverage or Medicare coverage.*

* Medicare is a Health Insurance Program for people age 65 or older, some disabled people under age 65, and people of all ages with End-Stage Renal Disease.
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Terms, Definitions and Statistical Methods Used in This Report

Prevalence*:** How do we know the level of burden of disease or health-related events that affect the population? To answer this question, we measure the number of instances of a particular disease or other condition in a population at a specific time. This measure is called ***prevalence.

95% confidence interval (95% CI): How do we know if one group is significantly different from another group with respect to the burden of disease or health-related event? One way of determining significant differences across groups is to compute a ***95% confidence interval (95% CI)***. Since all values in a survey are estimates, the 95% confidence interval (95% CI) is the range of values within which the "true" value probably lies 95% of the time. When two groups have 95% confidence intervals that overlap, indicating that the "true" value could potentially be the same in both groups, the groups are conservatively assumed to have statistically similar rates. If the 95% confidence intervals do *not* overlap, we assume that the groups being compared are significantly different from one another. The confidence interval indicates the precision of a calculation; the wider the interval the less precise the estimate.[1]

In this report, when the 95% confidence intervals *do not overlap*, we highlight the findings in **bold**. In the example below, the percentage of adults who reported that they had a personal doctor for health care was significantly higher for those aged 50 and older because the 95% CI for that group doesn't overlap with the 95% CI for those less than age 50.

Measure of Disparity	**Has Personal Doctor for Health Care** % (95% CI)
Age Group	
< 50	**72.9 (68.2 – 77.7)**
50 and older	**86.1 (81.3 – 91.0)**

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

INTRODUCTION

About Cape Verde

The Cape Verde Islands are a 10-island nation; nine of which are inhabited. The islands are located approximately 283 to 448 miles off the coast of Senegal, West Afr ica. The combined area of all the islands is roughly equal to the size of Rhode Island. The population of Cape Verde is 453,000 (census 2000). Because of the country's long history of emigration, there are an additional estimated one million Cape Verdeans living abroad, mainly in the United States, Western Europe, and Africa. The official language of Cape Verde is Portuguese; the national language is Crioulo or Krioulu (a Portuguese-based Creole), which is primarily an oral language.[2]

Figure 1. Map of Cape Verde in relation to Africa

Data source: http://www.noscasacv.com

Cape Verdeans in the United States

Cape Verdean immigration to the United States began in the early 1800s and accelerated in the 1900s as Cape Verde suffered drought, starvation, and economic decline. The United States Cape Verdean population, concentrated in the New England states, is estimated to be as large as the population of Cape Verde itself. New Bedford, Massachusetts, and Providence, Rhode Island, are the oldest and largest Cape Verdean communities in the United States. Dorchester, Brockton, and Fall River in Massachusetts, Pawtucket in Rhode Island, and Waterbury in Connecticut are the fastest growing Cape Verdean immigrant communities. [3] This report focuses on the Cape Verdean communities of Brockton, New Bedford, and Fall River, Massachusetts.

Figure 2. Map of Massachusetts in relation to New England states

Data source: http://wwp.greenwichmeantime.com/time-zone/usa/massachusetts/map.htm

Characteristics of the survey communities

Table 2 shows the demographic and economic characteristics of Brockton, New Bedford, and Fall River. While these communities have large and growing Cape Verdean populations, they are not counted consistently or accurately enough to be included in the U.S. Census demographic profiles (see further explanation below). In all three cities, the median household income is lower and the percentage of people living in poverty is higher than for the rest of Massachusetts.

Table 2. Census 2000 Demographic Profile Highlights [1]

Demographic Information	Massachusetts	Brockton	New Bedford	Fall River
Total Population	6,349,097	94,304	93,768	91,938
Black or African-American (One race)	343,454 (5.4%)	16,811 (17.8%)	4,112 (4.4%)	2,283 (2.5%)
White (One race)	5,367,286 (84.5%)	57, 997 (61.5%)	73,983 (78.9%)	83,847 (91.2%)
Hispanic or Latino origin	428,729 (6.8%)	7,544 (8.0%)	9,564 (10.2%)	3,034 (3.3%)
Asian (One race)	238,124 (3.8%)	2,075 (2.2%)	656 (0.7%)	2,023 (2.2%)
Speak a language Other than English at Home (Age 5+)	1,206,328 (18.7%)	24,932 (28.4%)	33,105 (37.8%)	29,782 (34.6%)
High School Graduate (Age 25+)	5,396,732 (84.8%)	45,079 (75.9%)	35,560 (57.6%)	34,623 (56.6%)
Median Household Income (1999 Dollars)	$50,502	$39,507	$27,569	$29,014
Individuals Below Poverty Level	573,421 (9.3%)	13,390 (14.5%)	18,553 (20.2%)	15,421 (17.1%)

[1] Data source: U.S. Census Bureau, Summary File 1 (SF 1) and Summary File 3 (SF 3). .
See also: http://quickfacts.census.gov/qfd/states/25/2509000.html

Challenges with Documenting Health Disparities in the Cape Verde community

Health disparities are differences in the incidence, prevalence, mortality, burden of disease, and other adverse health conditions that exist among specific population groups in the United States.[4,5] Much of what we know about health disparities in different racial and ethnic groups in the United States comes from population-based surveys administered at the state or national levels.

These surveys generally classify a person's race and ethnicity using the U.S. Bureau of the Census' system of racial classification. The 2000 U.S. Census has five minimum categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. There are two categories for ethnicity: "Hispanic or Latino" and "Not Hispanic or Latino."

Cape Verdeans are not included as a separate category on the U.S. Census because more than two-thirds of states have fewer than 100 Cape Verdean residents and Cape Verdeans themselves may self-identify as white, black, Portuguese, or "Cape Verdean." Thus, the health status of Cape Verdeans relative to other groups in the U.S. can not be determined from

national or statewide population-based surveys that use the census system of racial and ethnic classification.

However, the factors that contribute to health disparities in other racial and ethnic minority populations in the United States are likely to be factors that contrib ute to possible health disparities among Cape Verdeans living in the U.S. : poverty, intermittent health insurance coverage, limited access to health care, language barriers, and greater exposure to environmental and occupational hazards in the workplace.

Unfortunately, what is known about the health status of Cape Verdeans in Massachusetts is limited. In 1991, the Massachusetts Department of Public Health used birth certificates for infants of women who were residents of Massachusetts and delivered in 1987 and 1988 to assess prenatal care.[6] The proportion of mothers who received adequate prenatal care was lowest among Cape Verdean mothers compared to mothers of West Indian, Haitian, American, or Hispanic race/ethnicity. Cape Verdean mothers were also mor e likely than mothers of other racial and ethnic groups to have less than eight years of education. Whether Cape Verdeans living in Massachusetts experience other disparities in health status and health care is unknown.

PROJECT HISTORY AND METHODS

The following objectives of the Cape Verdean Community Health Survey Project are central to the objectives, mission and vision of the Massachusetts Department of Public Health's Diabetes Prevention and Control Program (DPCP).

1. To develop and implement a Community Health Survey in Brockton, New Bedford, and Fall River, Massachusetts.
2. To explore whether there were disparities in health status and health care access among Cape Verdean adults by sex, age, educational level, number of years in the United States, and type of health care coverage.
3. To use findings from the Community Health Survey for the development, implementation, and evaluation of programs designed to help eliminate health disparities among the Cape Verdean population in Massachusetts.

The project first took shape from anecdotal information from health care sites and providers (New Bedford and Brockton Community Health Centers) who indicated a very high prevalence of obesity, diabetes, hypertension and cardiovascular disease in the Cape Verdean population. Unfortunately, the Cape Verdean community and local health care providers have very little data to document their need for better health outcomes and improved quality of readily accessible care. Nor is there much information that would help providers, planners and community groups to assess best approaches, practices or priority areas to address in their community.

In 2002, the first step taken by the DPCP was to hire consultants who facilitated community discussions that covered several topics. Participants in these sessions included members of the Cape Verdean community from a wide range of ages and equal numbers of both genders. In general, these facilitated discussions provided insightful observations about potential barriers to changing behaviors that could improve health status. These behaviors are linked to cultural attitudes specific to each gender, attitudes toward the health care system and preventive services, as well as economic and educational issues. Low expectations toward health care systems were widespread across the Cape Verdean community which discouraged people from seeking care in the future. As a result of these observations, the recommendations that came out of these community discussions emphasized that quality of health care be further investigated. Therefore, in order to obtain information that would be helpful for planning future interventions, DPCP staff created a community survey to measure the burden of chronic disease, perceptions of risk, and health-seeking behaviors in the Cape Verdean community. Survey questions came from the research literature and from national population-based surveys, such as BRFSS and the National Health and Nutrition Examination Survey (NHANES).

This was not the first time a community survey was used to explore health-related issues in an under-represented population. Previously, the DPCP had administered community-based surveys for the Wampanoag and Vietnamese communities in Massachusetts. These

experiences highlighted the importance of including communities in the planning and implementation of surveys whenever possible.

In 2007, informed by the community discussions, the DPCP implemented the community survey as follows:

- Creation of linkages between community organizations
- Recruitment/training of interviewers
- Promotion (marketing plan)
- Administration of survey

Creation of linkages between community organizations:

DPCP staff initially contacted Diabetes Association, Inc. (DAI), a community-based agency that has had a long-standing relationship with the program and that has conducted several diabetes-related projects in southeastern Massachusetts. DAI is geographically located in an area where most Cape Verdeans reside and the association had a Cape Verdean employee who expressed interest in coordinating the project. In addition, the DPCP benefited from having a member of the Cape Verdean community as the MDPH Community Liaison for the same geographic area. Meetings between the DPCP, DAI and church groups that serve the Cape Verdean community in southern Massachusetts resulted in identifying the Cape Verdean Association of Brockton (CVAB) as the group to be primarily responsible for implementing the 2007 Cape Verdean Community Health Survey.

Recruitment/training of interviewers

Seven interviewers were recruited and trained to administer the Cape Verdean Community Health Survey. The interviewers were required to be at least 18 years of age, have a means of transportation and be able to speak Cape Verdean Creole, Portugues e, and English. DPCP staff trained the interviewers during four sessions at CVAB over a two-week period. The survey and training materials are included in the appendices to this report.

Promotion (marketing plan)

Initial promotion of the survey was limited to oral and written announcements at local church services. It soon became clear that a marketing plan was needed to reach at least 550 Cape Verdean adults over the age of 18, the number of respondents that the project data analyst felt would be necessary to detect significant differences between subpopulations (e.g., gender, age group, insurance status). DPCP staff and well-respected leaders in the Cape Verdean community hosted live interviews and participated in public service announcements to promote the project, which were taped and repeated several times on local cable access television and radio stations. In addition, word-of-mouth advertising was very effective and became an important means of increasing awareness about the project.

Administration of survey

Over the course of three to four months, a sample of 550 Cape Verdean adults completed the health survey. The sample selection was not random but some steps were taken to ensure a wide representation of members of the Cape Verdean community. For example, recruitment of participants was designed to sample equal numbers of women and men with at least one-third of the sample aged 50 and older. Also, no more than two individuals from a single household were permitted to fill out the survey. Comparison of demographic breakdowns of our survey sample with known demography of the Cape Verdean population are very limited as there is not much known in this regard in the published literature.

Participants were required to give informed consent prior to participation and each participant received a $25 stipend upon completion of the survey. Most interviews took place at the participants' homes, and took an average of 30 minutes. Completed surveys were sealed by the interviewer and returned to DPCP staff. No personal information (i.e., participant's name, address, telephone number, social security number, or any other means of identification) appeared on the survey or the sealed envelope. Access to the data is limited to the project's principal investigator and program evaluator. Survey findings are reported in the aggregate only.

Limitations of study

- Generalizing the results from this survey for the entire Cape Verde population must be made with caution as the sample of participants was obtained by non-random methods (discussed previously). Also, the sample area was restricted to Brockton, New Bedford and Fall River which may not represent Cape Verdeans in other parts of Massachusetts.

- While reviewing results from responses to questions about household income and health insurance type, there were concerns that either the participants had a hard time understanding these question or the interviewers were not properly trained to administer them.

- Since questions regarding access to health care were asked before the complete implementation of Health Care Reform, they may not represent current conditions for the Cape Verde community.

- The vast majority of participants were not born in the U.S. which caused some concern that there was a bias in recruiting the immigrant population.

- While many of the questions used in the survey were adapted from the Behavioral Risk Factor Surveillance Survey (BRFSS), making comparisons to the general Massachusetts population with corresponding years of the BRFSS results are not reliable due to differences in methods and types of analyses.

CHAPTER I. Describing the Participants

A. Who participated in the study?

Highlights (Table 3)

- The sample was evenly divided between women and men , with slightly more than one-third of the respondents (35%) aged 50 and older.
- About one-half of the respondents had completed their education up to 8th grade (51%).
- 45% of respondents had lived in the U.S. for less than 10 years.
- 4% of respondents were born in the U.S.
- Most survey respondents spoke Cape Verdean Creole at home (93%; data not shown).

Table 3. Descriptive Statistics, Cape Verdean Community Health Survey 2007

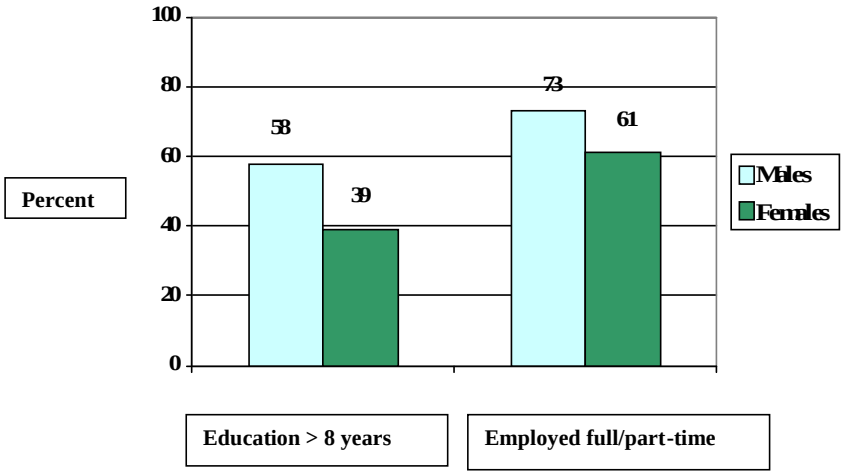
Characteristics	Sample (N = 550)	Percent
Gender		
Male	275	50.0
Female	275	50.0
Age		
18 – 29	105	19.1
30 – 49	244	44.4
50 +	195	35.5
Unknown	6	1.1
Currently married		
Yes	313	56.9
No	233	42.4
Unknown	4	.7
Employed full or part-time		
Yes	369	67.1
No	180	32.7
Unknown	1	0.2
Education		
None, Less than 8 years	281	51.1
9 – 11, HS grad, Technical school	191	34.7
Some college or graduate	73	13.3
Unknown	5	.9
Disability		
Yes	101	18.4
No	449	81.6
Years in U.S.		
Less than 5	105	19.1
5 – 9	141	25.6
10+	280	50.9
Born in U.S.	20	3.6
Unknown	4	0.7

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities within Participant Descriptions (Figure 3)

- Compared to women, men were **more likely** to have completed more years of schooling and to be employed full or part-time.

Figure 3. Education and employment status of Cape Verdeans by gender



Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

CHAPTER II. Health Status

A. What is the health status of Cape Verdeans?

Highlights (Table 4)

- Most Cape Verdeans reported that their general health was good to excellent (67%)
- The most common chronic condition was obesity (16%).
- Other chronic conditions were depression (10%), diabetes (10%), asthma (8%), heart disease (8%), and stroke (3%).

Table 4. Health status of Cape Verdeans

Health status	Sample (N = 550)	Percent
General health		
Excellent-good	366	66.5
Fair-poor	184	33.5
Weight status [a]		
Under - Normal	206	37.5
Overweight	203	36.9
Obese	87	15.8
Unknown	54	9.8
Depression		
Yes	58	10.5
No	488	88.7
Unknown	4	0.7
Diabetes		
Yes	57	10.4
No	488	88.7
Unknown	5	0.9
Asthma		
Yes	43	7.8
No	506	92.0
Unknown	1	0.2
Heart Disease		
Yes	43	7.8
No	503	91.5
Unknown	3	0.6
Stroke		
Yes	15	2.7
No	534	97.1
Unknown	1	0.2

[a] Weight status is based on a respondent's self-reported height and weight. Weight status was categorized based on Body Mass Index (BMI), which equals weight in kilograms divided by height in meters squared. Using the Healthy People 2010 (HP2010) standards, all adults with a BMI greater than or equal to 30.0 were classified as obese.

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Health Status (Table 5)

- Cape Verdeans ages 50 and older were **more likely** than those under age 50 to report their health was fair or poor.

- Cape Verdeans with an 8th grade education or less were **more likely** than those with more years of schooling to report their health was fair or poor.

- Cape Verdeans limited in any activities because of a disability were **more likely** than those with no self-reported disability to report that their health was fair or poor.

- All respondents were asked if they had ever been told by a doctor or nurse if they had depression, diabetes, asthma, cancer, or heart disease, or had suffered a stroke. We do not show disparities for these chronic health conditions beca use only a small percentage of respondents had one of these health problems. For example, only six survey respondents reported having been diagnosed with cancer (data not shown).

Table 5. Disparities in health status of Cape Verdeans

Characteristics	Fair or Poor Health % (95% CI)	Obese % (95% CI)
Gender		
Male	28.0 (22.7 – 33.3)	15.6 (11.1 – 20.0)
Female	38.9 (33.1 – 44.7)	19.7 (14.6 – 24.7)
Age Group		
< 50	**18.3 (14.2 – 22.4)**	15.7 (11.8 – 19.6)
50 and older	**59.5 (52.5 – 66.4)**	21.4 (14.9 – 28.0)
Education		
≤ 8th Grade	**51.9 (46.1 – 57.8)**	21.2 (15.9 – 26.4)
8th Grade or higher	**14.3 (10.0 – 18.5)**	14.0 (9.7 – 18.3)
Years in U.S.		
< 10 years	31.3 (25.5 – 37.1)	18.3 (13.1 – 23.4)
10 years or more*	35.3 (29.9 – 40.8)	17.0 (12.6 – 21.5)
Disability		
No	**23.8 (19.9 – 27.8)**	17.8 (14.1 – 21.5)
Yes	**76.2 (67.8 – 84.7)**	16.2 (8.0 – 24.5)
Health insurance		
No health insurance/Medicaid	39.5 (33.9 – 45.1)	20.5 (15.5 – 25.4)
Commercial/Medicare	27.0 (21.4 – 32.7)	14.7 (10.1 – 19.3)

* Includes Cape Verdeans born in the United States (n = 20).
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

CHAPTER III. Health Care Access

Having access to health care is essential for good health and receiving timely treatment when sick. Some Cape Verdeans may not have access to heath care because they do not have a personal doctor, while others may lack health insurance. Access to health care and insurance can affect how a person uses the emergency room. Use of the emergency room for medical care is an expensive way to receive care. In the U.S., emergency room visits, on average, cost nearly five times more than a visit to a doctor's office. The high cost of emergency room visits is partly responsible for the rising costs of medical care in the country.[7] Barriers to good health care can also occur when people feel disrespect for their culture including their language in the patient-provider relationship.

A. Do Cape Verdeans Have Access to Health Care?

Highlights (Table 6 and Figure 4)

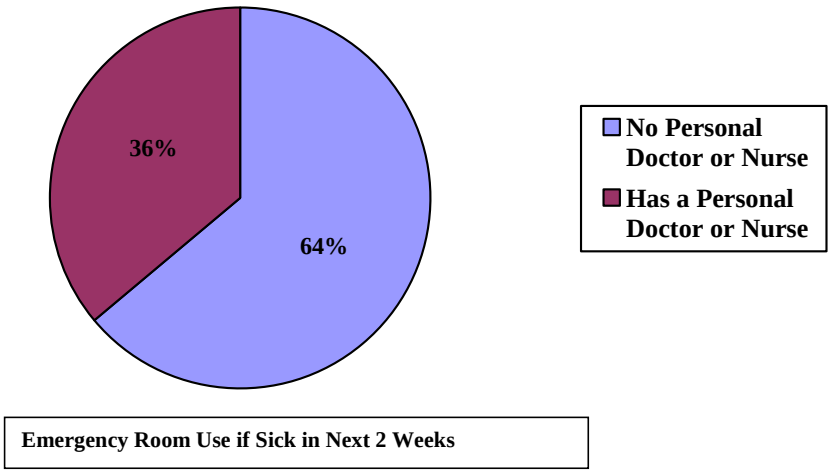
- Most Cape Verdeans had a person that they thought of as a personal doctor or nurse (77%).
- 43% of Cape Verdeans would use the emergency room if they became sick in the next two weeks.
- Most Cape Verdeans have health insurance (86%); 14% of respondents said they had no health insurance.
- 16% of Cape Verdeans reported that they do not have a personal doctor and that they had no health insurance or had Medicaid health insurance (data not shown).
- 9% of Cape Verdeans reported that they felt that they did not get the care they needed because of their color, age, gender, or disability (data not shown).
- Cape Verdeans without a personal doctor or nurse for their health care were significantly **more likely** than those with a health care provider to report that they would use the emergency room if they became sick in the next two weeks.

Table 6. Health care access of Cape Verdeans

Characteristics	Sample (N = 550)	Percent
Personal doctor for health care		
Yes	425	77.3
No	120	21.8
Unknown	5	0.9
Use ER in next 2 weeks if sick		
Yes	236	42.9
No	312	56.7
Unknown	2	0.4
Health insurance		
None	78	14.2
Medicaid/MassHealth	218	39.6
Medicare	39	7.1
Commercial	205	37.3
Unknown	10	1.8

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Figure 4. Emergency Room Use by Whether a Patient Has a Personal Doctor or Nurse or Does Not Have a Personal Doctor or Nurse



Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Health Care Access (Table 7)

- Cape Verdeans under age 50 were **less likely** than those ages 50 and older to have a personal doctor for health care.
- Cape Verdeans living in the U.S. for less than 10 years were **less likely** than those in the U.S. for 10 years or more to have a personal doctor for health care.
- Cape Verdeans with no health insurance or Medicaid health coverage were **less likely** than those with commercial health insurance or Medicare coverage to have a personal doctor for health care.

Table 7. Disparities in health care access of Cape Verdeans

Characteristics	Has Personal Doctor % (95% CI)	Use ER If Sick % (95% CI)
Gender		
Male	74.9 (69.7 – 80.1)	41.6 (35.7 – 47.5)
Female	81.0 (75.3 – 85.7)	44.5 (38.6 – 50.4)
Age Group		
< 50	**72.9 (68.2 – 77.7)**	46.5 (41.3 – 51.8)
50 and older	**86.1 (81.3 – 91.0)**	38.1 (31.2 – 45.0)
Education		
≤ 8th Grade	80.7 (76.1 – 85.4)	43.0 (37.2 – 48.9)
8th Grade or higher	75.3 (70.0 – 80.5)	43.6 (37.6 – 49.6)
Disability		
No	77.8 (73.8 – 81.6)	44.3 (39.7 – 48.9)
Yes	79.2 (71.1 – 87.2)	37.6 (28.0 – 47.2)
Years in U.S.		
< 10 years	**68.5 (62.7 – 74.5)**	48.6 (42.3 – 54.9

10 years or more*	**85.3 (81.2 – 89.3)**	39.1 (33.6 – 44.7)
Health insurance		
No health insurance/ Medicaid	**70.4 (65.2 – 75.7)**	45.8 (39.9 – 51.3)
Medicare/Commercial	**87.13 (82.9 – 91.4)**	41.0 (34.8 – 47.2)

* Includes Cape Verdeans born in the United States (n = 20).

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

CHAPTER IV. Preventive Health Care

Receiving preventive health care should help a person to maintain good health throughout their life. Controlling elevated blood pressure and cholesterol are an important component to preventive health care. In addition, overwhelming evidence supports the finding that good oral health improves overall health. Yet many Americans (estimates ranging from 30% to 40%), may not seek regular dental care. Lack of knowledge about the importance of good dental care and financial concerns are two barriers to seeking routine dental care.

A. How often do Cape Verdeans get preventive health care?

Highlights (Table 8)

- Three-fourths (76%) of respondents reported having had a routine check-up in the past year.
- 41% of respondents reported they did not have a routine dental visit in the past year.
- The most common preventive health screening in the past year was for blood pressure (86%), followed by cholesterol (68%), and blood sugar (62%).
- High blood pressure was reported more often than high cholesterol (35% vs. 27%), but both high blood pressure and high cholesterol are health problems in the Cape Verdean community.

Table 8. Preventive health care of Cape Verdeans

Characteristics	Sample (N = 550)	Percent
Routine check-up or general physical exam past year		
Yes	415	75.5
No	129	23.5
Unknown	6	1.1
Routine dental check-up in past year		
Yes	322	58.5
No	223	40.5
Unknown	5	.9
Blood pressure checked in past year		
Yes	473	86.0
No	68	12.4
Unknown	9	1.6
Have high blood pressure (if ever checked)		
Yes	192	34.9
No	338	61.5
Unknown	20	3.6
Cholesterol checked in past year		
Yes	371	67.5
No	146	26.5
Unknown	33	6.0
Have high cholesterol (if ever checked)		
Yes	150	27.3
No	293	53.3

Unknown	107	19.5
Blood sugar (glucose) checked in past year		
Yes	343	62.4
No	156	28.4
Unknown	51	9.3

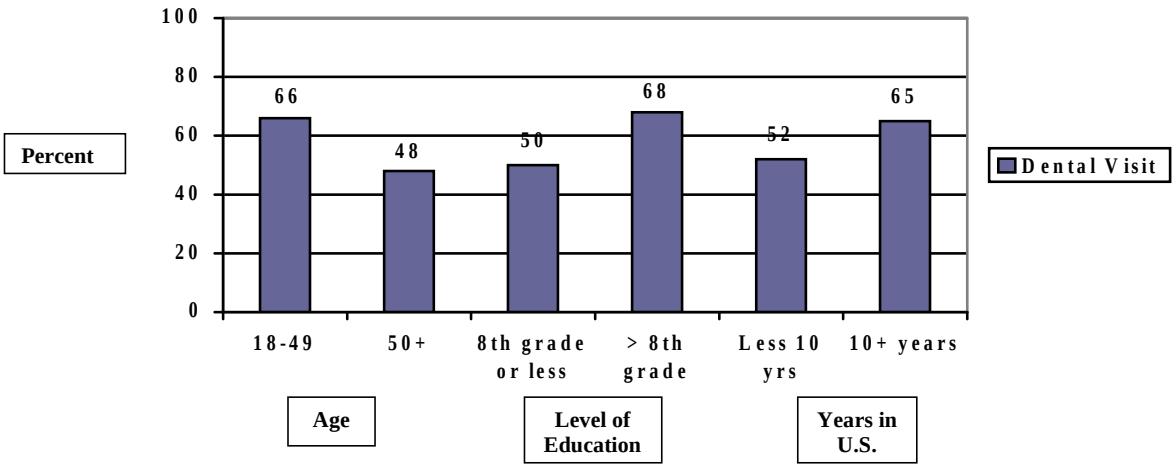
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Preventive Health Care

Dental Care (Figure 5)

- Cape Verdeans ages 50 and older were **more likely** than those under age 50 to report not having had a routine dental check-up in the past year.
- Cape Verdeans with an 8th grade education or less were **more likely** than those with more years of schooling to report not having a routine dental check-up in the past year.
- Cape Verdeans in the U.S. for less than 10 years were **more likely** than those in the U.S. for 10 years or more to report not having a routine dental check-up in the past year.

Figure 5. Routine dental care in past year by age group (18-49 years, 50+ years), level of education (8th grade or less, > 8th grade), and years in U.S. (<10 years, 10+ years)



Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

High Blood Pressure and High Cholesterol (Table 9)

- Cape Verdeans ages 50 and older were **more likely** than those under age 50 to have high blood pressure and high cholesterol.
- Cape Verdean adults with an 8th grade education or less were **more likely** than those with more years of schooling to have high blood pressure and high cholesterol.
- Cape Verdean adults limited in activities because of a disability were **more likely** than those with no self-reported disability to have high blood pressure and high cholesterol.
- Cape Verdean adults in the U.S. for less than 10 years were **more likely** than those in the U.S. for 10 years or more to have high blood pressure.

Table 9. Disparities in high blood pressure and high cholesterol of Cape Verdeans*

Characteristics	Has High Blood Pressure % (95% CI)	Has High Cholesterol % (95% CI)
Gender		
Male	32.5 (26.8 – 38.3)	34.6 (28.1– 41.2)
Female	39.7 (33.9 – 45.5)	33.2 (27.2 – 39.2)
Age Group		
< 50	**21.3 (16.8 – 25.7)**	**18.8 (14.0 – 23.5)**
50 and older	**62.0 (55.1 – 68.9)**	**55.7 (48.3 – 63.1)**
Education		
≤ 8th Grade	**49.8 (43.8 – 55.8)**	**44.3 (38.0 – 50.5)**
8th Grade or higher	**22.0 (16.9 – 27.2)**	**21.4 (15.6 – 27.2)**
Disability		
No	**30.9 (26.6 – 35.3)**	**28.9 (24.2 – 33.7)**
Yes	**59.8 (49.9 – 69.7)**	**54.0 (43.3 – 64.7)**
Years in U.S.		
< 10 years	**26.3 (20.6 – 31.9)**	27.0 (20.6 – 33.5)
10 years or more**	**44.0 (38.2 – 49.7)**	38.2 (32.2 – 44.2)
Health insurance		
No health insurance/Medicaid	41.3 (35.6 – 47.0)	34.3 (28.2 – 40.4)
Medicare/Commercial	30.5 (24.5 – 36.4)	33.5 (26.9 – 40.1)

* Data are shown for respondents ever checked for high blood pressure or ever checked for high cholesterol.
** Includes Cape Verdeans born in the United States (n = 20).
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

There are four categories to measure blood pressure[8] and three categories to measure cholesterol[9]. The cholesterol levels are based on a test called a fasting lipoprotein profile, which measures different types of fat in the blood as milligrams per deciliter of blood (mg/dL).

Measuring blood pressure and cholesterol

Blood Pressure Category	Systolic (mm Hg)		Diastolic (mm Hg)
Normal	less than 120	and	less than 80
Pre-hypertension	120–139	or	80–89
High Blood Pressure			
Stage 1	140–159	or	90–99
Stage 2	160 or higher	or	100 or higher

Blood (or Serum) Cholesterol Category	
Desirable	Less than 200 mg/dlL
Borderline-High Risk	200 – 230 mg/dlL
High Risk	240 mg/dlL and over

CHAPTER V. HIV Screening

In recent years, the U.S. government has required that any person wishing to live in the United States for work or study purposes, or because they are joining a family member, must undergo a compulsory HIV test. Anyone found positive for HIV who has not obtained a special medical waiver from U.S. Immigration Services is refused entry to the country. [10]

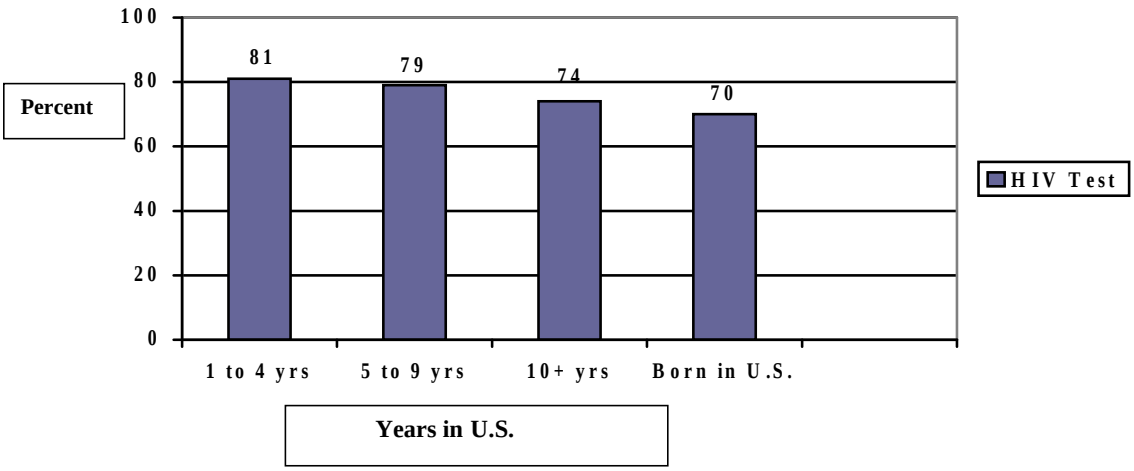
A. How many people have been screened for HIV and how much awareness of HIV exists in the Cape Verdean community?

- Of the 550 respondents to the 2007 Cape Verdean Community Health Survey, only 20 people were born in the U.S. (3.6%). It is not surprising, therefore, that 76% of the respondents reported that they had been tested for HIV (n =417; data not shown).
- Of the 417 Cape Verdeans who had been tested for HIV, nearly all knew what HIV was (95%).
- Among Cape Verdeans who had not been tested for HIV, 83% knew what HIV was.
- Among Cape Verdeans who did not know if they had ever been tested for HIV, only 59% knew what HIV was.

B. Disparities in HIV Screening

The likelihood of having been screened for HIV did not differ significantly by survey respondents' sex, age, educational level, disability status, or years in the U.S. This was true even between those who had been born in the U.S. and those who were not (see figure 6).

Figure 6. Routine screening for HIV by years in U.S.



Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

CHAPTER VI. Cancer Screening

National and/or MDPH Guidelines for Cancer Screening

Screening tests for breast, cervical, colon, and prostate cancer are given when a person has no cancer symptoms. When screening tests are done routinely, the tests can help find cancer at an early stage. When abnormal tissue or cancer is found early, it may be easier to treat. *National guidelines are described below and reflect the current recommended guidelines disseminated by the majority of the health plans in Massachusetts.* Please note that general screening guidelines for individuals with risk factors can warrant screening regimens with an earlier starting age and a shorter time in between screenings.

National guidelines for cervical cancer screening: Routine screening for cervical cancer should begin approximately three years after a woman begins having sexual intercourse, but no later than 21 years old. Women should have a Pap test at least once every three years. Women ages 65 years and older who have recent negative Pap tests may discuss with their physician having a Pap test less often.[11]

National guidelines for breast cancer screening: Routine screening for breast cancer is recommended every one to two years for women aged 40 and older. Screening by mammography, clinical breast examination (CBE), or both may decrease breast cancer mortality.[11]

MDPH guidelines for breast cancer screening: The MDPH recommends that all women age 40 and older have a mammogram every year.

National guidelines for colorectal cancer screening: Routine screening for colorectal cancer should begin at age 50. Both men and women should follow one of the five following testing schedules: (1) an annual fecal occult blood test (FOBT), (2) a flexible sigmoidoscopy every 5 years, (3) an annual FOBT plus flexible sigmoidoscopy every 5 years, (4) a double-contrast barium enema every 5 years, or (5) a colonoscopy every 10 years. Screening women and men aged 50 to 80 decreases mortality from colorectal cancer and regular screening by sigmoidoscopy in people older than 50 years may decrease mortality from colorectal cancer. [11]

MDPH guidelines for prostate cancer screening: There is no evidence to support digital rectal exam (DRE) testing in association with prostate cancer screening. It is recommended that men who choose to begin screening, after talking with their provider, should consider obtaining a baseline PSA value at age 40 followed by interval testing. The men who opt to get a baseline PSA test should follow up with a second PSA in 18 months to 2 years. These two tests would permit calculation of the "difference in PSA values over a period of time." This is the definition of **PSA Velocity**. If PSA changes by more than 0.4 ng/ml per year, the velocity is suspicious and should be diagnostically followed up. Also, the evidence suggests that current prostate cancer treatments, including radical prostatectomy and radiation therapy, can result in permanent and negative side effects in many men, which can permanently affect a man's quality of life.[11] For reasons that are not well understood, black or African-American men have a higher risk of developing and dying of prostate cancer than white men. Therefore the option to be screened with a PSA may begin as early as age 40 or age 45 for black men, or for men with other risk factors such as a family history of prostate cancer, eating a high-fat diet, or being obese.[12]

Since the evidence is not clear as to the benefit of prostate cancer screening , it is important that doctors and their patients discuss the risks and benefits of PSA screening in order to make an informed decision about getting screened for this disease (see Table 11).

A. How often do Cape Verdeans receive cancer screening?

Highlights (Tables 10a and 10b)

- Most women 18 years of age and older had a Pap test (69%) or a clinical breast exam (CBE) (71%) in the past year.
- Cancer screening among women aged 50 and older varied from a low of 44% for a fecal occult blood test (FOBT) in the past year to a high of 79% for either a CBE in the past year or a mammogram in the past two years.
- Among men aged 50 and older, 50% had been screened for colon cancer with an FOBT and 59% had a PSA test in the past year.

Table 10a. Cancer screening among Cape Verdean women

Age groups	Pap test past year % (n) [b]	CBE past year % (n)	Mammogram past year % (n)	FOBT past year % (n)	Sigmoidoscopy, colonoscopy or proctoscopy (Ever) % (n)
18+	69.0. (169)	71.5 (191)			
40+	69.5 (105)	78.6 (136)	79.3 (138)		
50+				44.4 (44)	49.5 (50)

[a] Sample size for women aged 18 and older = 272. Three women were missing age. The sample size for women aged 40 and older = 177. The sample size for women aged 50 and older = 105. Percentages exclude missing and don't know.

[b] Pap test in past year excludes women who have had a hysterectomy.

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Comment [DPH1]: Identify "a" above

Table 10b. Cancer screening among Cape Verdean men [a]

Age group	PSA past year % (n)	FOBT past year % (n)	Sigmoidoscopy, colonoscopy or proctoscopy (Ever) % (n)
50+	59.2 (48)	50.0 (43)	63.6 (56)

[a] Sample size for men aged 18 and older = 272. Three men were missing age. Sample size for men aged 50 and older = 90. Percentages exclude missing and don't know.

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Table 11. Men's Health Awareness	
Benefits of PSA screening	**Risks of PSA screening**
PSA screening allows for the early detection of prostate cancer. Cancer is easier to treat and is more likely to be cured in the earlier stages of the disease.	Prostate cancer may be slow-growing and never spread beyond the prostate gland.
PSA testing can be done with a simple blood test.	PSA tests can't tell the difference between prostate cancer and other noncancerous prostate conditions (such as infection or noncancerous prostate enlargement). If PSA test results are questionable, more testing may be recommended, including prostate biopsies.
For some men, knowing is better than not knowing. Having the test can provide you with a certain amount of reassurance—either that you don't have prostate cancer or that you do have it and can now have it treated.	You may end up with a diagnosis of prostate cancer that is not a threat to your health and doesn't require treatment.
Prostate cancer, if found early, can be successfully treated.	Testing for prostate cancer may lead to unnecessary treatments. Treatment for prostate cancer can have serious risks and side effects, including urinary incontinence, erectile dysfunction or bowel dysfunction.
The number of deaths from prostate cancer has gone down since PSA testing became available.	There is no clear evidence that the decrease in deaths from prostate cancer is due to early detection and treatment based on PSA or due to other factors.

Data Source: © 1998-2008 Mayo Foundation for Medical Education and Research. All rights reserved.
http://www.mayoclinic.com/health/prostate-cancer/HQ01273

B. Disparities in Cancer Screening

The percentage of survey respondents aged 50 and older is too small to identify groups less likely to be screened for age- and gender-appropriate cancer screening tests.

Public Health Progress

Since 1991, the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) has funded states to provide uninsured and underinsured women at or below 250% of the federal poverty level access to timely, high-quality screening and diagnostic services to detect breast and cervical cancer at the earliest stages.*

The Massachusetts Department of Public Health's (MDPH) Care Coordination Program, a component of the Women's Health Network (WHN) and Men's Health Network (MHN), provides free breast and cervical cancer screening and diagnostic services and health education services to low-income, uninsured men and women at over 45 locations throughout the state. In some areas, individuals can also receive free cardiovascular risk factor screening, diabetes screening, risk-reduction education, and healthy lifestyle interventions.

* Centers for Disease Control and Prevention. National Breast and Cervical Cancer Screening Program. Information about the program is available at: http://www.cdc.gov/cancer/NBCCEDP/about.htm

CHAPTER VII. Health Behaviors and Clinical Conditions

Chronic diseases, such as heart disease, diabetes, and asthma, can have a great impact on the health and well-being of a community. Therefore, it is important to identify subgroups most likely to have multiple chronic disease risk factors that would benefit from effective interventions. A risk factor is a behavior, clinical condition, or characteristic that is associated with an increased possibility of developing a chronic illness. According to the World Health Organization (WHO), seven leading risk factors account for more than half the global burden of disease. These risk factors are: high blood pressure, high cholesterol, obesity, physical inactivity, insufficient consumption of fruits and vegetables, cigarette smoking, and risky drinking (binge drinking) of alcoholic beverages.

Both singly and in combination, these risk factors increase a person's chances of getting a chronic disease.[13] Each risk factor can independently increase the risk of developing chronic diseases as well as exacerbate other risk factors. This phenomenon is known as risk factor clustering. Consequently, identifying combinations of behavioral risk factors that cluster together can provide guidelines for interventions aimed at preventing chronic diseases.

A. What percent of Cape Verdeans have health behaviors and clinical conditions that put them at risk for chronic diseases?

Highlights (Table 12)

- Based on body mass index (BMI), 16% of Cape Verdeans were obese. As shown in Table 4, obesity is the most common chronic condition among Cape Verdeans.
- High blood pressure was reported more often than high cholesterol (35% vs. 27%), but both high blood pressure and high cholesterol are health problems in the Cape Verdean community (see Table 8).
- Among people who are physically able to exercise, 45% do not exercise 5 days a week for at least 30 minutes.
- Most Cape Verdeans do not eat a minimum of 5 fruits and vegetables a day (66%).
- One-third of Cape Verdeans eat a diet high in fat (32%).
- About 10% of respondents currently smoke.
- Very few respondents reported ever having a problem with excessive drinking or using drugs.
- Fourteen percent of Cape Verdeans reported that they ate in fast food restaurants more than twice a week (data not shown).

Table 12. Chronic Disease Risk Factors		
World Health Organization Risk Factors	Sample (N = 550)	Percent
Have high blood pressure[a]		
Yes	192	34.9
No	338	61.5
Unknown	20	3.6
Have high cholesterol[a]		
Yes	150	27.3
No	293	53.3
Unknown	107	19.5
Weight status – Obese		
Yes	87	15.8
No	409	74.4
Unknown	54	9.8
Regular exercise[b]		
No	246	44.7
Yes	279	50.7
Not able to exercise	21	3.8
Unknown	3	0.5
Less than 5 fruits and vegetables a day[c]		
Yes	362	65.8
No	164	29.8
Unknown	24	4.4
Current smoker		
Yes	52	9.5
No	494	89.8
Unknown	4	0.7
Binge drinking (men only) [d]		
Yes	109	39.6
No	86	31.3
Unknown	80	29.1
Additional lifestyle risk factors		
High fat diet [e]		
Yes	178	32.4
No	363	66.0
Unknown	9	1.6
Ever had problem with drinking		
Yes	24	4.4
No	521	94.7
Unknown	5	0.9
Ever had problem with drugs		
Yes	5	0.9
No	544	98.9
Unknown	1	0.2

[a] Diagnosed by a doctor.

[b] Regular exercise is defined as any activity done at least five days a week, for 30 minutes or more (other than a regular job), which causes a small increase in breathing or heart rate for people who can exercise.

[c] The Centers for Disease Control and Prevention (CDC) recommends that people eat a minimum of 5 fruits and vegetables a day to promote good health. See: http://www.fruitsandveggiesmatter.gov/benefits/index.html

[d] Binge drinking was defined as four or more drinks per day on two or more days in the past month .

[e] A high-fat diet is defined as eating poultry with skin abo ut 2-4 times a week or every day, and/or eating fried food about 2-4 times a week, and/or eating at fast food places about 2 -4 times a week or every day.

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

How does cigarette smoking impact the Cape Verde community?

Although only a small percentage of Cape Verdeans reported that they currently smoked cigarettes, smoking is associated with many serious diseases. Cigarette smoking causes most cases of lung cancer, as well as most cases of lung cancer deaths (close to 90% in men and 80% in women). Other diseases associated with smoking include cancer of the oral cavity, pharynx, larynx, esophagus, bladder, stomach, cervix, kidney and pancreas, as well as acute myeloid leukemia. When burned, cigarette smoke contains over 4,000 chemicals, with over 40 of them being known cancer-causing agents. Therefore, living with someone who smokes is a health risk.[14]

Highlights (Table 13)

- As discussed above, few Cape Verdeans reported that they currently smoked (10%).
- Only 8% of respondents lived with a smoker.
- About one-third of current smokers had tried to stop smoking for one day or longer because they were trying to quit smoking (31%), but these percentages are based on a very small number of current smokers (n = 52).
- Among Cape Verdean adults, men are significantly more likely to be current smokers than women (15% vs. 5%), male current smokers: n = 40 vs. female current smokers: n = 12

Table 13. Smoking status of Cape Verdeans

Characteristics	Sample (N = 550)	Percent
Smoking status		
Current smoker	52	9.5
Former smoker	24	4.4
Never smoked	470	85.5
Unknown	4	0.7
Lives with smoker		
Yes	45	8.2
No	501	91.1
Unknown	4	0.7
Stopped smoking for 1+ day past 12 months to try to quit smoking	***(n = 52)***	
Yes	16	30.8
No	29	55.8
Unknown	7	13.5

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

What percent of Cape Verdeans have multiple chronic disease risk factors?

As noted above, seven common risk factors contribute substantially to chronic disease prevalence. A substantial proportion of the U.S. population (about 25%) has multiple risk factors that significantly increase the risk for cardiovascular disease and other chronic health problems.

A Modifiable Risk Factor Score was calculated to assess the prevalence of multiple risk factors for chronic diseases among Cape Verdeans and to identify disparities in risk status among population subgroups.

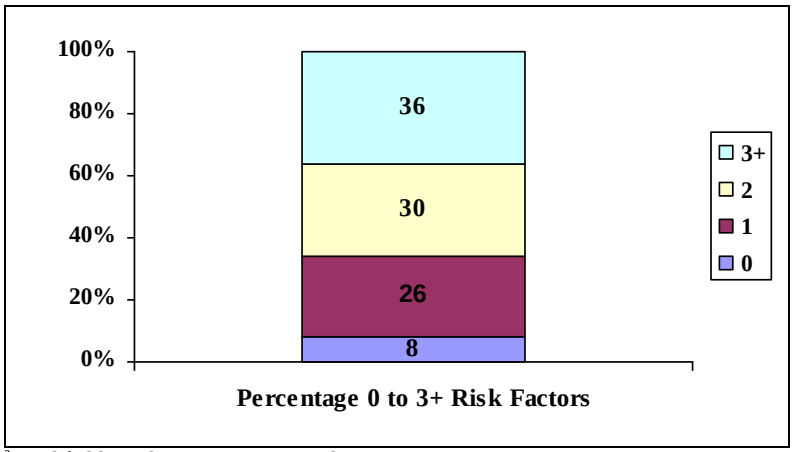
The Modifiable Risk Factor Score was based on six factors: cigarette smoker, no leisure-time physical activity, diet low in fruits and vegetables, being obese, having high blood pressure, and having high cholesterol. The score ranged from 0 (no risk factors) to 6 (all risk factors). Binge drinking (commonly defined as having more than four drinks on more than one occasion in the past month) was not included in the score. Most women in the Cape Verdean Community Health Survey reported that they did not drink any alcohol (n = 206; 75%). Binge drinking was reported by 40% of Cape Verdean men.

The Modifiable Risk Factor Score is based on 363 survey respondents with valid answers on each of the six risk factors (66%) and includes 62% of men (n = 171) and 70% of women (n = 192). The six risk factors were grouped together because they may be modified by interventions targeting both the individual and the environment.

Highlights (Figure 8 and Table 14)

- Overall, 8% of Cape Verdeans reported having no risk factors, 26% reported one risk factor, 30% reported two risk factors, and 36% reported three or more risk factors. Having two or more modifiable risk factors increases the likelihood of having cardiovascular disease.
- The most common risk factor on the modifiable risk factor score was eating less than 5 fruits and vegetables a day.
    - Among Cape Verdeans with one risk factor on the modifiable risk factor score, about half did not eat five fruits or vegetables a day (53%).
    - Among Cape Verdeans with two risk factors on the modifiable risk factor score, 71% did not eat five fruits or vegetables a day.
    - Among Cape Verdeans with three or more risk factors on the modifiable risk factor score, 82% did not eat five fruits or vegetables a day.

Figure 7. Modifiable Risk Factor Score[a]



[a] Modifiable Risk Factor Score sample = 363.
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Table 14. Prevalence of individual risk factors among Cape Verdeans with one or more risk factors on the Modifiable Risk Factor Score			
Risk factor	1 Risk Factor (n = 96)	2 Risk Factors (n = 108)	3+ Risk Factors (n = 130)
Less than 5 fruits/vegetables a day	**53%**	**71%**	**82%**
No regular exercise	16%	51%	63%
High blood pressure	11%	29%	51%
High cholesterol	8%	32%	45%
Obesity	9%	13%	25%
Smoker	2%	4%	11%

Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Cape Verdeans with **three or more** chronic disease risk factors (Table 15)

Cape Verdeans having three or more risk factors for chronic diseases were more likely to:

- Be aged 50 and older
- Have an 8th grade education or less
- Be limited in any activities because of a disability
- Have no health insurance or have Medicaid

Table 15. Disparities in chronic disease risk factors among Cape Verdeans	
Characteristics	Modifiable Risk Score Score = 3 to 6 (95% CI)
Gender	
Male	36.8 (29.5 – 44.1)
Female	34.9 (28.1 – 41.7)

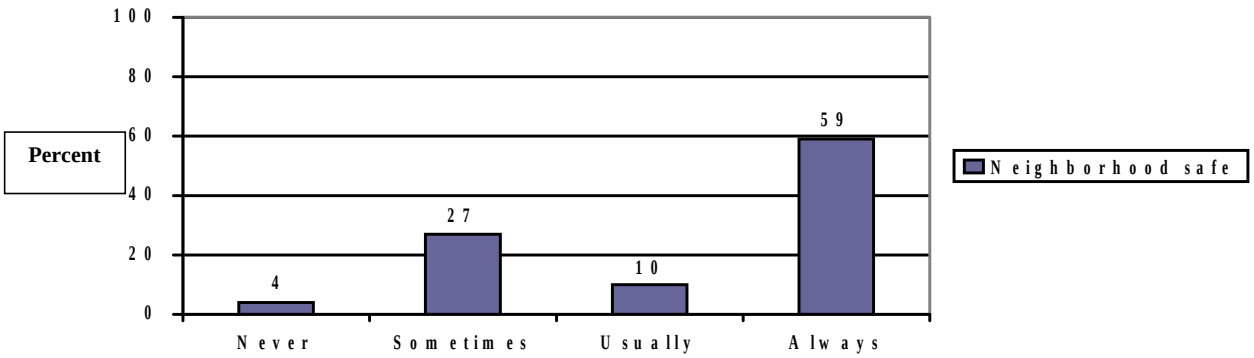
Age Group	
< 50	**26.7 (21.0 – 32.3)**
50 and older	**53.8 (44.7 – 62.9)**
Education	
< 8th Grade	**44.0 (36.8 – 51.3)**
8th Grade or higher	**27.3 (20.6 – 33.9)**
Disability	
No	**32.8 (27.5 – 38.1)**
Yes	**52.7 (39.1 – 66.3)**
Years in U.S.	
< 10 years	29.1 (21.8 – 36.5)
10 years or more*	40.3 (33.6 – 46.9)
Health insurance	
No health insurance/Medicaid	**42.8 (35.6 – 49.9)**
Medicare/Commercial	**28.9 (22.1– 35.7)**

*Includes Cape Verdeans born in the United States (n = 20).
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

How might a neighborhood affect residents' health?

While the lifestyle and modifiable risk factor scores presented in the previous sections focus on individual behaviors, the neighborhood in which a person lives may also contribute to a person's health and longevity.[15,16] Residents of neighborhoods with a high percentage of crime and vandalism have poorer health outcomes than do residents of low crime areas. Therefore, we include neighborhood safety as a modifiable risk factor for residents' health. Shown in Figure 9 are responses to the question: *"How often do you feel safe in your community or neighborhood?"* Although a majority of respondents felt that their neighborhood was always or usually a safe place to live (69%), 31% of Cape Verdean adults felt that their neighborhood was only sometimes safe or never safe (see Figure 9).

Figure 8. Perceptions of neighborhood safety



Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Public Health Progress

Many modifiable risk factors for chronic diseases can be addressed through prevention, early recognition, and treatment. Physicians and other health care providers, however, cannot have the sole responsibility for helping patients make effective lifestyle changes to reduce the risk of chronic diseases. Policy and environmental changes, such as workplace smoking cessation programs or banning artificial *trans* fats (unhealthy fats) in restaurant food, are also essential to help people to live healthy lifestyles.

Bringing affordable farmers markets to local communities may be one useful strategy to help improve nutrition and reduce the risk of future chronic diseases. The Federation of Massachusetts Farmers Markets works with numerous other organiza tions to facilitate markets throughout the state.*

The Massachusetts Department of Food and Agriculture, in cooperation with MDPH, operates a Senior Farmers Market Nutrition Program. The program provides coupons to low -income seniors to obtain fresh fruits and vegetables from farmers markets, roadside stands and community-supported agriculture programs.**

* Federation of Massachusetts Farmers Markets. Information is available at: http://www.massfarmersmarkets.org/

CHAPTER VIII. Family History of Chronic Diseases

Family members share their genes, as well as their environment, lifestyles and habits. A family health history helps identify people at increased risk for disea se because it reflects a person's genes as well as other shared risk factors.

The family history questions in the survey focused on nine chronic illnesses: heart disease; stroke; asthma; diabetes; depression; and colon, breast, cervical, and prostate can cer. These chronic diseases were assessed because there is a wealth of public health and medical information about how to decrease one's risk of developing these diseases if a person 's close relative had them (a positive family history). In addition, the chronic diseases that were looked at in terms of family history are among the most common, and are both costly and preventable. Table 17 also shows the percentage of respondents with a family member who has ever had a problem with too much drinking. Excessive drinking can cause a variety of health problems, including liver disease and brain damage.

A. How many members of the Cape Verdean community are at high ris k for chronic disease because they have a family history of a chronic disease?

Highlights (Table 16)

- One-third of Cape Verdeans (32%) reported that a family member had diabetes.
- About one-fourth of Cape Verdeans reported that a family member had suffered from a heart attack or a stroke (27%).
- 21% of Cape Verdeans reported that a family memb er had asthma.
- 10% of Cape Verdeans said a family member had depression.
- Close to 20% of Cape Verdeans have a family member who has had a drinking problem.

Table 16. Prevalence of chronic diseases and problem drinking among Cape Verdeans and their family members

	Respondents[a] % (n)	Respondents' Family Members % (n)
Diabetes[b]	9.6 (53)	32.0 (176)
Heart attack or stroke	9.5 (52)	26.5 (146)
Asthma	7.8 (43)	21.1 (116)
Depression	10.6 (58)	9.6 (53)
Any cancer[c]	*Numbers too small to report*	8.7 (48)
Problem with too much drinking	4.4 (24)	19.6 (108)

[a]The total sample = 550.[b] Among women, diagnosed diabetes excluded diabetes only during pregnancy. [c] Cancers for women include breast, cervical, colorectal, or other cancer. Cancers for men include prostate, colorectal, or other cancer. Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Family History of Chronic Diseases

The likelihood of having a family member with one or more chronic diseases (heart disease, stroke, asthma, diabetes, depression, or any cancer) did not differ by survey respondents' sex, age, educational level, disability status, or years in the U.S.

CHAPTER IX. Diabetes and Self-Management

What is Diabetes?

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone used to convert sugar, starches, and other food into the energy needed for everyday life. There are two types of diabetes: type 1 and type 2. In type 1 diabetes, the body is unable to produce insulin. In type 2 diabetes, the body is able to produce insulin, but is unable to utilize it efficiently. Over 90% of adults with diabetes have type 2 diabetes. The Cape Verdean Community Survey did not distinguish between type 1 and type 2 diabetes.

Diabetes is a leading cause of death in the United States. In the U.S., about 7 percent of the population − or 21 million Americans − have diagnosed diabetes. An estimated 6.2 million Americans who have diabetes do not know they have the disease. Furthermore, uncontrolled diabetes increases the risk for stroke and heart disease and is the leading cause of kidney failure, amputations below the leg, and blindness. It is also strongly associated with depression and disability which can make healthy behaviors such as physical activity, good nutrition and quitting smoking much more difficult.

Obesity, poor diet, and physical inactivity are risk factors associated with the increase in the prevalence of type 2 diabetes. In 2006, diabetes was the ninth leading cause of death in Massachusetts. In 2007, the direct and indirect cost of diabetes in the U.S. was more than $174 billion. In Massachusetts, 9.9% of the Commonwealth's medical care costs were attributed to diabetes. Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age.

A. How many people in the Cape Verdean community have diabetes and are there any subgroups within the population that are more likely to have been diagnosed?

Highlights

- The percentage of survey respondents with diabetes * was higher than the percentage of people with diabetes in Massachusetts** (10% vs. 7%).
- Cape Verdean women were more likely than Cape Verdean men to have diabetes (58%; data not shown).
- The average age of Cape Verdeans with diabetes was 64 (data not shown).

*Based on respondents who answered "yes" to the question, "Has a doctor ever told you that you have diabetes?"

**Data Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Behavioral Risk Factor Surveillance System, Prevalence Data. Weighted percentages. Data available at: http://apps.nccd.cdc.gov/brfss/index.asp

How well are Cape Verdeans with diabetes managing their disease?

The key to good diabetes control is a careful balance between food, physical activity, and, if needed, oral medications and/or insulin. An important aspect of diabetes care is monitoring glucose levels, which helps people with diabetes maintain their target blood sugar levels. Improved glucose monitoring technology and new diabetes medications are making it possible for people with diabetes to achieve and maintain their target blood glucose levels and maintain a good quality of life.

Highlights (Table 17 and Figure 10)

- Most Cape Verdeans with diabetes have learned good management of their disease.
  - 84% have been taught by a doctor, nurse, nutritionist, or certified diabetes educator about how to care for their diabetes.
  - 81% have been taught by a doctor or a nurse to check their blood glucose or sugar at home.
- Knowledge of the Hemoglobin A1C test was low.
  - More than one-third of Cape Verdeans with diabetes (37%) said they had never heard of a Hemoglobin A1c test.
  - More than one-half of Cape Verdeans with diabetes (58%) said their doctor did not discuss the Hemoglobin A1c test with them or they did not know if their doctor discussed the test.
- 52% of Cape Verdeans with diabetes mostly relied on one method, primarily oral medication (see Figure 10), to control their diabetes

What is a Hemoglobin A1c (HbA1c) test?

The Hemoglobin A1c (HbA1c) test is used to measure a person's blood sugar control over the previous two to three months. HbA1c values do not vary the way daily blood glucose values can. This blood test can help people with diabetes and their doctors know how well their diabetes is being controlled.

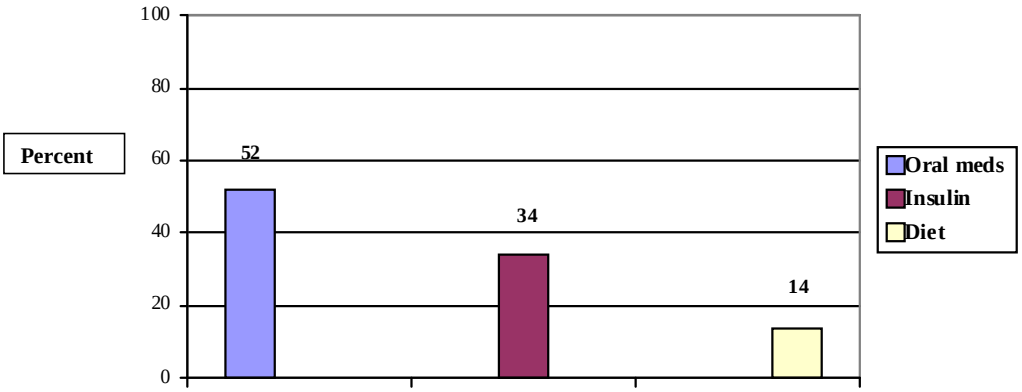
The goal for people with diabetes is to keep blood glucose levels as close to normal as possible. This helps to minimize the complications caused by elevated glucose levels, such as damage to the kidneys, eyes, cardiovascular system, and nerves.

Table 17. Diabetes management among Cape Verdeans with diagnosed diabetes		
Characteristics	Sample (N = 57)	Percent
See doctor or nurse for diabetes care		
Once a month	30	52.6
Once every 6 months	14	24.6
Once a year, less frequently, never	6	10.5
Unknown	7	12.3
Taught how to care for diabetes by provider*		
Yes	48	84.2
No	3	5.3
Unknown	6	10.5
Taught how to check blood glucose or sugar at home		
Yes	46	80.7
No	5	8.8
Unknown	6	10.5
How often check blood sugar		
Twice a day or more	20	35.1
Once a day	14	24.6
Less often than once a day or when I feel sick	8	14.0
When I see my health care provider	10	17.5
Unknown	5	8.8
Number of different ways used to control blood sugar**		
1	29	50.9
2	10	17.5
3 or 4	10	17.5
Unknown	8	14.0
Doctor or nurse ever talked about 'hemoglobin A one C'		
Yes	24	42.1
No	23	40.4
Unknown	10	17.5
Number of times tested for 'hemoglobin A one C' in past year		
1 to 2	4	7.0
3 to 4	12	21.1
5 to 9	2	3.5
Never heard of 'hemoglobin A one C'	21	36.8
Unknown	18	31.6
Had sores or irritations on feet that took more than one month to heal		
Yes	12	21.1
No	40	70.2
Unknown	5	8.8
Last time doctor or nurse checked feet for sores or irritations		
Past year	42	73.7
More than a year ago to more than 3 years ago	2	3.5
Never	8	14.0
Unknown	5	8.8
Last time doctor or nurse checked feet for numbness		
Past year	35	61.4
More than a year ago to more than 3 years ago	4	7.0
Never	12	21.1
Unknown	6	10.5

Last time doctor or nurse checked vision		
Past year	37	64.9
More than a year ago to more than 3 years ago	9	15.8
Never	5	8.8
Unknown	6	10.5

* Provider defined as doctor, nurse, nutritionist, or certified diabetes educator.
**Methods for controlling blood sugar include insulin, oral medication, diet, and/or exercise.
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Figure 9. Most common ways people with diabetes control their diabetes if only one method is used*



* Sample size = 29
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

How many Cape Verdeans have pre-diabetes?

Pre-diabetes occurs when blood glucose levels are higher than normal but not yet high enough for a diagnosis of diabetes. Approximately 40% of U.S. adults ages 40 to 74, or 41 million people, currently have pre-diabetes. Diabetes risk scores have been developed in various populations to identify those individuals at high risk of having pre-diabetes. Up to 70% of people with pre-diabetes develop type 2 diabetes in the course of their lives unless they change unhealthy habits or receive medical treatment. Effective primary prevention for diabetes should include identifying individuals at risk for developing diabetes prior to the onset of disease when risk factors can be addressed, life style modifications achieved and risk significantly lowered.

The Denmark Diabetes Risk Score Study (DDRSS) used a scoring system to identify people with pre-diabetes.[17] A score of 0 through 30 is defined as low risk and a score of 31 or greater is defined as high risk. Applying the same criteria used in the DDRSS (n=313*), an estimate for the percent of Cape Verdean with pre-diabetes was developed.

***** Cape Verdeans ages 30 to 60 years who were never told by a doctor that they have diabetes or who had gestational diabetes. Criteria used by the Denmark Diabetes Risk Score Study.

Highlights (Figure 11 and Table 18)

Pre-diabetes Sample (n = 313)*****

- Among Cape Verdeans in the Denmark Diabetes Risk Score sample (n = 313):
  - ❖ Close to one-third (32%) had high blood pressure.
  - ❖ 20% were obese.
  - ❖ Slightly more than one-third (35%) had a family member with diabetes.

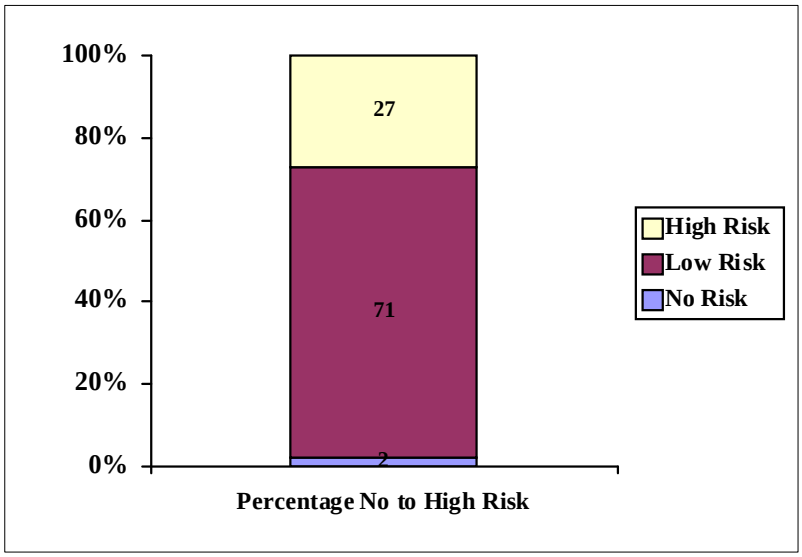
- 27% of Cape Verdeans were categorized as being at high risk for having pre-diabetes according to the Denmark Diabetes Risk Score.

Table 18. Risk factor scoring for the Denmark Diabetes Risk Score among Cape Verdeans [a]

Risk Factors	Sample[b] (N = 313)	Percent	Pre-diabetes Risk Factor Points
Age			
30 – 40	114	36.4	0
41 – 47	100	31.9	7
48 – 54	66	21.1	13
55 – 60	33	10.5	18
Sex			
Male	159	50.8	4
Female	154	49.2	0
High Blood Pressure[c]			
Yes	97	31.0	10
No	208	66.5	0
Body Mass Index (BMI)			
Underweight or normal (BMI < 25)	105	33.5	0
Overweight (BMI 25 to 29)	131	44.9	7
Obese (BMI ≥ 30)	61	19.5	15
Regular Exercise[d]			
No	160	51.1	6
Yes	144	46.0	0
Family History of Diabetes			
Yes	108	34.5	7
No	198	63.3	0

[a] Risk Factor Score includes Cape Verdeans ages 30 to 60 years who were never told by a doctor that they have diabetes or who had diabetes only when pregnant. [b] Numbers may not equal 313 because of missing values.
[c] diagnosed high blood pressure. [d] Regular exercise is defined as any activity done at least five days a week, for 30 minutes or more (other than a regular job), which causes a small increase in breathing or heart rate for people who can exercise. Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

Figure 10. Risk Categories for having pre-diabetes among Cape Verdeans[a]



[a] Includes persons aged 30 to 60 who have never been diagnosed with diabetes or who had diabetes only when pregnant.)
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

B. Disparities in Cape Verdeans categorized as High Risk in the Denmark Diabetes Risk Score (Table 19)

You are more likely to be at high risk for developing type 2 diabetes (have pre-diabetes) if you are:

- Aged 46 and older compared to those aged 30 to 45.
- Adults with an 8th grade education or less compared to adults with more years of formal schooling.
- Cape Verdeans limited in any activities because of a disability compared to those with no self-reported disability.
- Cape Verdeans in the U.S. for 10 years or more compared to Cape Verdeans in the U.S. for less than 10 years.

Table 19. Disparities for those at high risk for pre-diabetes among Cape Verdeans per the Denmark Diabetes Risk Score[a]	
Characteristics	High Risk Score[b] % (95% CI)
Gender	
Male	24.5 (17.8 – 31.3
Female	29.9 (22.6. – 37.2)
Age Group	
30 to 45	**11.0 (6.5 – 15.5)**
46 and older	**52.5 (43.5 – 61.4)**
Education	

< 8th Grade	**35.0 (27.5 – 42.6)**
8th Grade or higher	**18.9 (12.7 – 25.2)**
Disability	
No	**23.9 (18.8 – 29.1)**
Yes	**44.0 (29.7 – 58.2)**
Years in U.S.	
< 10 years	**18.7 (11.9 – 25.6)**
10 years or more[c]	**32.6 (25.8 – 39.4)**
Health insurance	
None/Medicaid	29.9 (22.6 – 37.2)
Medicare/Commercial	25.0 (18.1 – 31.9)

[a] Includes persons aged 30 to 60 who have never been diagnosed with diabetes or who have had gestational diabetes (diabetes which only appears during pregnancy)
[b] A high risk score for developing pre-diabetes is 30 or higher.
[c] Includes Cape Verdeans born in the United States (n = 20).
Data Source: Massachusetts Department of Public Health Cape Verdean Community Health Survey 2007.

CONCLUSION

This report documents the health status and other related information for Cape Verdean adults living in the Massachusetts communities of Brockton, New Bedford, and Fall River. Findings are based on a convenience sample of 550 respondents. Although the results from this report can not be generalized to all Cape Verdean adults in Massachusetts, the findings of the 2007 Cape Verdean Community Health Survey show that many Cape Verdean adults have a fair to poor health status, and are at high risk for developing diabetes and other chronic diseases. In addition, these results add to existing concerns that the burden of chronic disease could be greater in the Cape Verdean population than the Massachusetts general population. Regardless of the burden, however, it appears that many individuals who currently have chronic conditions do not receive adequate care that would prevent potential complications from their condition(s).

In addition, this report documents that within the Cape Verdean community there is a disproportionate burden of poorer health outcomes for those individuals who are older, have an 8th grade education or less, have no health insurance or Medicaid, and who have a disability. The number of years people have lived in the United States appears to impact their current and future health status. Also, some results suggest that significant gender differences may exist for specific risk factors, including current smoker status and binge drinking among men in comparison to women.

Individual health outcomes differ greatly by a person's lifestyle choices. The most common modifiable risk factors measured in this survey were related to diet and physical activity. However, studies have shown that the neighborhood environment where a person lives can affect and even limit the choices an individual can make about their personal lifestyle which will impact their health status. For example, when streets are safe, walking trails well-maintained, heart-healthy food options are available at local restaurants, and local markets sell an abundance of fruits and vegetables, people are more likely to be physically active and consume a healthy diet. Brockton, New Bedford and Fall River all have public recreation programs for residents which offer physical activity opportunities, and are good examples of how communities can take action and become healthier places to work, live and play.

The Cape Verdean community can engage their local leaders and legislators to encourage environmental changes that would result in greater utilization of these existing resources as well as the creation of additional resources to promote healthy food options. Steps must also be taken to improve the quality of care that would prevent complications from existing chronic conditions.

The high participation level in both the administration and completion of this survey is a reflection of the strong desire and commitment the Cape Verdean community has for improving the health of their population. This suggests a great potential for effective interventions. However, to be successful, the organizations that participated in the 2007 Cape Verdean Community Health Survey need to be given strong economic and technical support to form collaborations dedicated to eliminating inequalities in health.

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